

حمل الآن

مجانا وحصريا

# امتحانات رقم (1)

## الترم الثاني



## Model (1)

24  
Marks

### 1 (A) Complete the following sentences:

- 1 The chromosome consists of two strands, each one is called a ..... connected at the .....
- 2 The crystals of basalt rock are ..... in size, while the crystals of granite rock are ..... in size.

### (B) Give a reason for:

- 1 The bronze alloy is used in making statues instead of copper.  
.....
- 2 The presence of sharp canines in carnivorous animals.  
.....
- 3 Litmus strip is not suitable for distinguishing between strong acids and weak acids.  
.....
- 4 The potential energy of an object gradually decreases as it falls down.  
.....

### 2 (A) Choose the correct answer:

- 1 Which of the following pH values represents the weakest acid?  
a) 12                      b) 7                      c) 5                      d) 2
- 2 Any food chain consists of several trophic levels. The first level is occupied by .....  
a) consumers              b) producers              c) predators              d) decomposers

### (B) What happens when ...?

- 1 Increasing the speed of a moving object to double its original speed.  
.....
- 2 Adding a molten metal to another molten metal.  
.....
- 3 Decreasing food sources in a certain environment.  
.....
- 4 Differences in the arrangement of nucleotides on DNA.  
.....  
.....

**3 (A) Write the scientific term:**

1 The process of water loss from a plant in the form of water vapor. (.....)

2 The sum of potential and kinetic energy of any object. (.....)

**(B) 1 What is the importance of ...?**

pH meter device

.....

Graphite

.....

**2 Mention the food relationships between the following living organisms.**

(1) Lion and zebra. (.....)

(2) Bee and flower. (.....)

**4 (A) Cross out the odd word, then mention the relation between the rest:**

1 Hardness – Luster – Brittleness –Electrical – conductivity (.....)

2 Limestone – Pumice stone – Sandstone – Claystone (.....)

**(B) 1 What is the use of ...?**

Bronze alloy: .....

Milk of magnesia: .....

**2 Compare between each of the following:**

(1) Solubility of Silver Chloride and Sodium Chloride in Water.

Silver Chloride	Sodium Chloride
.....	.....

(2) Marble and Granite “in terms to the type of rock”.

Marble	Granite
.....	.....

## Model (2)

24  
Marks

### 1 (A) Put (✓) or (X):

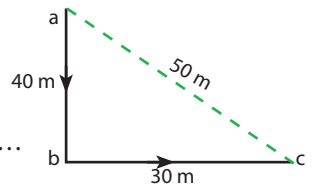
- 1 The kinetic energy of an object at rest is equal to zero. ( )
- 2 The nutritional relationship between plover bird and Nile crocodile is a commensalism relationship ( )

### (B) 1 Mention one example of each of the following:

- (1) Liquid non-metal element. (.....)
- (2) A predator plant. (.....)

### (B) 2 The opposite figure represents an object moving from point (A) to point (C) passing through point (B). Find:

- (1) The distance: .....
- (2) The displacement:.....



### 2 (A) Cross out the odd word:

- 1 Kinetic energy – Mass – Height – Speed. (.....)
- 2 Oxygen – Carbon – Nitrogen – Sodium. (.....)

### (B) 1 What happens when ...?

- (1) Freezing of water in rock cracks.  
.....
- (2) The time taken to cover a certain distance decreases "relative to the speed of the object".  
.....

### 2 What is the difference between ...?

- (1) Evaporation process and boiling process.

Evaporation	Boiling
.....	.....

- (2) Spontaneous mutation and induced mutation.

Spontaneous mutations	Induced mutations
.....	.....

**3 (A) Complete the following:**

- 1 Sulfur trioxide is ..... oxide, while calcium oxide is ..... oxide.
- 2 ..... occupy the base of the energy pyramid, while ..... occupies the apex of the energy pyramid.

**(B) 1 What is the importance of ...?**

(1) Dotted beetles.

.....

(2) Incisors in herbivorous animals.

.....

**2 Write the chemical formula for each of the following:**

(1) Nitric acid: (.....)

(2) Calcium hydroxide: (.....)

**4 (A) Choose the correct answer:**

- 1 If the temperature of the clouds is below the freezing point, it results in ..... .
- a) rainfall                      b) snowfall                      c) storms                      d) cloud evaporation
- 2 The number of chromosomes in maize (corn) cells is ..... .
- a) 32                      b) 20                      c) 46                      d) 4

**(B) Give a reason for:**

1 Sedimentary rocks are characterized by being porous.

.....

2 The mechanical energy of a body remains constant during its fall although the decrease in its potential energy.

.....

.....

.....

3 A person may be born with a hand that has six fingers.

.....

4 Hydrogen gas ( $H_2$ ) and chlorine gas ( $Cl_2$ ) can be distinguished using litmus strips.

.....

.....

## Model (3)

24  
Marks

### 1 (A) Complete the following:

- 1 ..... is the only non-metal element that is a good conductor of electricity, and it is used in the manufacture of dry cells.
- 2 A spider weaving its web is ..... while learning languages is ..... trait.

### (B) 1 A body with a weight of 20N at a height of 5 m, and its kinetic energy is 60 J.

Calculate:

- (1) Its potential energy .....
- (2) The mechanical energy .....

### 2 Compare between each of the following:

- (1) Acids and Alkalis "in terms of the effect on litmus paper".

Acids	Alkalis
.....	.....

- (2) Mechanical weathering and chemical weathering "in terms of their definition".

Mechanical weathering	Chemical weathering
.....	.....
.....	.....

### 2 (A) Choose the correct answer:

- 1 Metamorphic rocks are formed through the processes of ..... .
- a) melting and crystallization                      b) transportation and deposition
- c) heat and pressure                                      d) erosion and weathering
- 2 All of the following are properties of non-metals, except ..... .
- a) brittle    b) do not conduct electricity
- c) all are solid elements                                  d) poor conductors of heat

### (B) 1 What happens when ...?

- (1) Throwing a body upwards "in relation to potential and kinetic energy".

.....

(2) Exposure of tropical regions to vertical sunlight.

.....  
.....

**2 What is the importance of ...?**

(1) Universal indicator strip.

.....  
.....

(2) The High Dam. ....

**3 (A) Write the scientific term:**

**1** A change in the nature of a gene that occurs spontaneously, leading to a change in the genetic trait controlled by the gene. (.....)

**2** The change of a matter from the gaseous state to the liquid state by losing heat. (.....)

**(B) 1 Classify the following into "inherited trait – acquired trait – instinctive behavior":**

Breastfeeding	.....
Eye color	.....
Drawing skills	.....

**2** A force of 50 N was applied to a stationary object, causing it to move a displacement of 3 m in the same direction of the force. Calculate the amount of work done.

.....

**4 (A) Put (✓) or (X):**

**1** There are no food relationships between living organisms. ( )

**2** Evaporation requires the losing of heat from water. ( )

**(B) 1 Look at the opposite figure, then answer:**

(1) This figure represents the .....

(2) Write the labels on this figure:

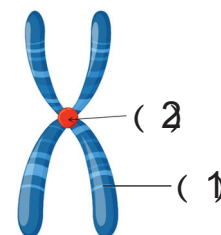
1.....

2.....

**2 Name the following compounds:**

(1)  $H_2SO_4$  : .....

(2)  $NaOH$  : .....



## Model (4)

24  
Marks

### 1 (A) Complete the following sentences:

- 1 Plants are examples of ..... , while fungi are examples of .....
- 2 Weight is measured in ..... , while work is measured in .....

### (B) 1 What happens when ...?

- (1) The mass of a body is doubled and its speed is reduced to half "concerning its kinetic energy".  
.....
- (2) A litmus strip is dipped in NaOH solution.  
.....

### 2 Give one example for each of the following:

- (1) An organism that occupies the base of the energy pyramid. (.....)
- (2) A neutral salt solution. (.....)

### 2 (A) Choose the correct answer:

- 1 Which of the following gases turn red litmus strip into blue when it is wetted with water?
  - a) Chlorine.
  - b) Ammonia.
  - c) Carbon dioxide gas.
  - d) Sulphur trioxide.
- 2 When a ball is thrown vertically upwards, its mechanical energy .....
  - a) remains constant
  - b) increases
  - c) decreases
  - d) doubles

### (B) Give a reason for:

- 1 Aluminum is harder and has a higher melting point than sodium.  
.....
- 2 The weight of an object differs from its mass.  
.....
- 3 Avoid tasting, touching, or smelling any chemicals in the lab without the teacher's permission.  
.....
- 4 Graphite is used in making dry cell batteries.  
.....



**3 (A) Write the scientific term:**

1 A feeding relationship where one organism benefits, while the other neither benefits nor is harmed. (.....)

2 The process of breaking rocks into smaller pieces without changing their chemical composition. (.....)

**(B) 1 What happens when...?**

(1) An acid is added to a piece of limestone.

.....

(2) Acid rains fall on Earth's surface

.....

**2 Write the chemical formula for the following compounds:**

(1) Sodium carbonate. (.....)

(2) Silver chloride. (.....)

**4 (A) Cross out the odd word:**

1 Detergents – Baking soda – Sodium hydroxide solution – Hydrochloric acid solution

2 Basalt – Granite – Pumice – Marble

**(B) 1 Mention the function of each of the following:**

(1) Hydrochloric acid secreted by the stomach. (.....)

(2) Chemical indicators.

.....

**2 Identify the feeding relationship between the following:**

(1) Polar bear and seal. (.....)

(2) Two lions are eating a zebra. (.....)

## Model (5)

24  
Marks

### 1 (A) Complete the following sentences:

- 1 Short legs of arctic foxes is a ..... trait, while the taming lions is ..... trait.
- 2 The chemical formula of calcium hydroxide is ....., while the chemical formula of hydro sulphuric acid is .....

### (B) 1 What is meant by ...?

(1) Indicators.

.....  
.....

(2) Food web. (.....)

### 2 A small ball whose mass is 4 kg moves at a speed of 5 m/s. Calculate:

(1) Kinetic energy:

.....

(2) Its kinetic energy when the object stops moving:

.....

### 2 (A) Correct the underlined words:

- 1 If a body moves 70 meters north and then returns 20 meters south, its displacement is 90 meters. (.....)
- 2 Tin element makes up 95% of the bronze alloy. (.....)

### (B) 1 Mention one difference between:

(1) Growing hydrangea plants in acidic soil versus alkaline soil.

.....	.....
.....	.....

(2) Energy and Force (in terms of measuring units).

.....	.....
.....	.....

### 2 Write the formula and name of the acid containing the following anions:

- (1) Iodide (I): (.....)
- (2) Carbonate ( $\text{CO}_3^{2-}$ ): (.....)

**3 (A) Choose the correct answer:**

**1** Which of these organisms cannot make its own food?

- a) Cactus.                      b) Bean plant.                      c) Bee.                      d) Green algae.

**2** Which ion increases in concentration when an acidic oxide dissolves in water?

- a)  $H^+$                       b)  $OH^-$                       c)  $Cl^-$                       d)  $Na^+$

**(B) 1 What happens when...?**

(1) A litmus strip is dipped in acetic acid.

.....

(2) A severe muscular dystrophy occurs in some newborns.

.....

**2 When do the following values equal zero?**

(1) Kinetic energy of an object (.....)

(2) Displacement of an object (.....)

**4 (A) Write the scientific term:**

**1** The set of points through which an object passes during its motion. (.....)

**2** A non-metal element that is a good conductor of electricity. (.....)

**(B) 1 Give a reason for:**

(1) Milk of magnesia is used as a temporary treatment for stomach acidity.

.....

(2) The work done by a truck is greater than the work done by a car.

.....

**2 What is the importance of ...?**

(1) Demolition ball (.....).

(2) pH value (.....)

## Model (1)

24  
Marks

### 1 (A) Complete the following sentences:

- 1 The chromosome consists of two strands, each one is called a **...chromatid....**, connected at the **.....centromere .....**
- 2 The crystals of basalt rock are **...small...** in size, while the crystals of granite rock are **...large....** in size.

### (B) Give a reason for:

- 1 The bronze alloy is used in making statues instead of copper.  
**Because it is harder and more resistant to rusting compared to copper.**
- 2 The presence of sharp canines in carnivorous animals.  
**To help them tear their prey.**
- 3 Litmus strip is not suitable for distinguishing between strong acids and weak acids.  
**Because strong and weak acids change the blue litmus strip into red.**
- 4 The potential energy of an object gradually decreases as it falls down.  
**Due to the decrease in height, as potential energy is directly proportional to height.**

### 2 (A) Choose the correct answer:

- 1 Which of the following pH values represents the weakest acid?  
a) 12                      b) 7                      **c) 5**                      d) 2
- 2 Any food chain consists of several trophic levels. The first level is occupied by .....  
a) consumers              **b) producers**                      c) predators                      d) decomposers

### (B) What happens when ...?

- 1 Increasing the speed of a moving object to double its original speed.  
**The kinetic energy increases four times.**
- 2 Adding a molten metal to another molten metal.  
**An alloy is formed with different properties.**
- 3 Decreasing food sources in a certain environment.  
**Competition among organisms increases, affecting their growth and survival.**
- 4 Differences in the arrangement of nucleotides on DNA.  
**This leads to a change in the genetic trait controlled by this gene, causing a mutation and the appearance of a new trait.**

**3 (A) Write the scientific term:**

- 1 The process of water loss from a plant in the form of water vapor. (... **Transpiration process** ...)
- 2 The sum of potential and kinetic energy of any object. (... **Mechanical energy**...)

**(B) 1 What is the importance of ...?**

pH meter device

..... **It is used to determine the pH value of any solution directly and accurately.....**

Graphite

..... **It is used to make the dry cell** .....

**2 Mention the food relationships between the following living organisms.**

- (1) Lion and zebra. (... **Predation**...)
- (2) Bee and flower. (... **Mutualism**...)

**4 (A) Cross out the odd word, then mention the relation between the rest:**

- 1 Hardness – Luster – Brittleness –Electrical – conductivity  
(.....**Brittleness**... (Properties of metals).....)
- 2 Limestone – Pumice stone – Sandstone – Claystone  
(.....**Pumice stone (Sedimentary rocks)** .....

**(B) 1 What is the use of ...?**

Bronze alloy: .....**It is used in making jewelry, statues, and medals**.....

Milk of magnesia: **It is used as a temporary treatment to neutralize gastric acidity.**

**2 Compare between each of the following:**

- (1) Solubility of Silver Chloride and Sodium Chloride in Water.

Silver Chloride	Sodium Chloride
<b>Insoluble in water</b>	<b>Soluble in water</b>

- (2) Marble and Granite “in terms to the type of rock”.

Marble	Granite
<b>Metamorphic rock</b>	<b>Igneous rock</b>

## Model (2)

24  
Marks

### 1 (A) Put (✓) or (X):

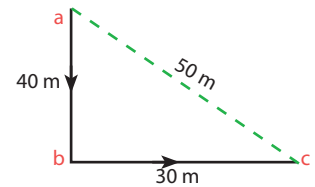
- 1 The kinetic energy of an object at rest is equal to zero. (✓)
- 2 The nutritional relationship between plover bird and Nile crocodile is a commensalism relationship (✓)

### (B) 1 Mention one example of each of the following:

- (1) Liquid non-metal element. (.....Bromine.....)
- (2) A predator plant. (...Dionaea plant....)

### (B) 2 The opposite figure represents an object moving from point (A) to point (C) passing through point (B). Find:

- (1) The distance:  $=40 + 30 = 70 \text{ m} \dots\dots$
- (2) The displacement:  $= \dots 50 \text{ m} \dots\dots\dots$



### 2 (A) Cross out the odd word:

- 1 Kinetic energy – Mass – Height – Speed. (.... Height....)
- 2 Oxygen – Carbon – Nitrogen – Sodium. (.... Sodium....)

### (B) 1 What happens when ...?

- (1) Freezing of water in rock cracks.

**Water expands when it freezes, leading to rock fragmentation (mechanical weathering).**

- (2) The time taken to cover a certain distance decreases "relative to the speed of the object".

**The speed of the object increases.**

### 2 What is the difference between ...?

- (1) Evaporation process and boiling process.

Evaporation	Boiling
It is the process at which liquids change into gases at any temperature.	It is the process at which liquids change into gases at their boiling point.

- (2) Spontaneous mutation and induced mutation.

Spontaneous mutations	Induced mutations
They are mutations that occur naturally without human intervention.	They are mutations that occur through human intervention.

**3 (A) Complete the following:**

- 1 Sulfur trioxide is ....**an acidic**..... oxide, while calcium oxide is ...**a basic**.... oxide.
- 2 ...**Producers**..... occupy the base of the energy pyramid, while ..**last consumer**.... occupies the apex of the energy pyramid.

**(B) 1 What is the importance of ...?**

(1) Dotted beetles.

.....**They feed on aphids, which are agricultural pests that harm vegetables and fruits....**

(2) Incisors in herbivorous animals.

.....**They are used for cutting plants** .....

**2 Write the chemical formula for each of the following:**

(1) Nitric acid: (..... **HNO<sub>3</sub>**.....)

(2) Calcium hydroxide: (..... **Ca(OH)<sub>2</sub>**.....)

**4 (A) Choose the correct answer:**

- 1 If the temperature of the clouds is below the freezing point, it results in ..... .
- a) rainfall      **b) snowfall**      c) storms      d) cloud evaporation
- 2 The number of chromosomes in maize (corn) cells is ..... .
- a) 32      **b) 20**      c) 46      d) 4

**(B) Give a reason for:**

- 1 Sedimentary rocks are characterized by being porous.

.....**Due to the presence of spaces between the sediment particles that form them.....**

- 2 The mechanical energy of a body remains constant during its fall although the decrease in its potential energy.

**Because mechanical energy is the sum of potential energy and kinetic energy. As the body falls, potential energy is converted into kinetic energy, keeping the total mechanical energy constant.**

- 3 A person may be born with a hand that has six fingers.

**Due to a genetic mutation that causes a change in the genes responsible for finger growing.**

- 4 Hydrogen gas (H<sub>2</sub>) and chlorine gas (Cl<sub>2</sub>) can be distinguished using litmus strips.

**Because chlorine gas removes the color of the litmus strips while hydrogen gas has no effect on it.**

## Model (3)

24  
Marks

### 1 (A) Complete the following:

- 1 **...Carbon...** is the only non-metal element that is a good conductor of electricity, and it is used in the manufacture of dry cells.
- 2 A spider weaving its web is **...an instinctive behavior...**, while learning languages is **... an acquired...** trait.

### (B) 1 A body with a weight of 20N at a height of 5 m, and its kinetic energy is 60 J.

Calculate:

- (1) Its potential energy **PE = Weight (w) × Height (h) = 20 × 5 = 100 J**
- (2) The mechanical energy **ME = PE + KE = 100 + 60 = 160 J**

### 2 Compare between each of the following:

- (1) Acids and Alkalis "in terms of the effect on litmus paper".

Acids	Alkalis
<b>They change the blue litmus paper into red.</b>	<b>They change the red litmus paper into blue.</b>

- (2) Mechanical weathering and chemical weathering "in terms of their definition".

Mechanical weathering	Chemical weathering
<b>It is a process by which the rocks are broken down without change in their structure.</b>	<b>It is a process by which the rocks are broken down with change in their chemical structure.</b>

### 2 (A) Choose the correct answer:

- 1 Metamorphic rocks are formed through the processes of ..... .
  - a) melting and crystallization
  - b) transportation and deposition
  - c) heat and pressure**
  - d) erosion and weathering
- 2 All of the following are properties of non-metals, except ..... .
  - a) brittle
  - b) do not conduct electricity
  - c) all are solid elements**
  - d) poor conductors of heat

### (B) 1 What happens when ...?

- (1) Throwing a body upwards "in relation to potential and kinetic energy".

**.....The potential energy increases, while the kinetic energy decreases.....**



(2) Exposure of tropical regions to vertical sunlight.

.... This leads to the concentration of sunlight on a smaller area of the Earth's surface, causing a rise in temperature and an increase in the evaporation rate in these regions...

2 What is the importance of ...?

(1) Universal indicator strip.

It is used to distinguish between acids and alkalis, or to differentiate between different acids or different alkalis.

(2) The High Dam. .... It is used to generate electricity.....

3 (A) Write the scientific term:

1 A change in the nature of a gene that occurs spontaneously, leading to a change in the genetic trait controlled by the gene. (.....Mutation.....).

2 The change of a matter from the gaseous state to the liquid state by losing heat. (... Condensation)

(B) 1 Classify the following into "inherited trait – acquired trait – instinctive behavior":

Breastfeeding	Instinctive behaviors
Eye color	Inherited traits
Drawing skills	Acquired traits

2 A force of 50 N was applied to a stationary object, causing it to move a displacement of 3 m in the same direction of the force. Calculate the amount of work done.

$$\text{Work done} = \text{Force (F)} \times \text{Displacement (s)} = 50 \times 3 = 150 \text{ J}$$

4 (A) Put (✓) or (X):

1 There are no food relationships between living organisms. (X)

2 Evaporation requires the losing of heat from water. (X)

(B) 1 Look at the opposite figure, then answer:

(1) This figure represents the .....chromosome.....

(2) Write the labels on this figure:

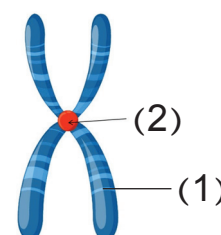
1-.....Chromatid.....

2-.....Centromere.....

2 Name the following compounds:

(1)  $\text{H}_2\text{SO}_4$  : .....Sulfuric acid.....

(2)  $\text{NaOH}$  : .....Sodium hydroxide.....



## Model (4)

24  
Marks

### 1 (A) Complete the following sentences:

- 1 Plants are examples of **.....producers.....**, while fungi are examples of **....decomposers.....**.
- 2 Weight is measured in **.....newton (N).....**, while work is measured in **....joule (J).....**.

### (B) 1 What happens when ...?

- (1) The mass of a body is doubled and its speed is reduced to half "concerning its kinetic energy".  
**..... The kinetic energy is decreased to half.....**
- (2) A litmus strip is dipped in NaOH solution.  
**.....The red litmus paper changes into blue .....**

### 2 Give one example for each of the following:

- (1) An organism that occupies the base of the energy pyramid. (**.....Plant.....**)
- (2) A neutral salt solution. (**....Sodium chloride (NaCl)....**)

### 2 (A) Choose the correct answer:

- 1 Which of the following gases turn red litmus strip into blue when it is wetted with water?  
a) Chlorine. **b) Ammonia.**  
c) Carbon dioxide gas. d) Sulphur trioxide.
- 2 When a ball is thrown vertically upwards, its mechanical energy .....  
**a) remains constant** b) increases  
c) decreases d) doubles

### (B) Give a reason for:

- 1 Aluminum is harder and has a higher melting point than sodium.  
**.....Because , it has stronger metallic bonds due to more valence electrons .....**
- 2 The weight of an object differs from its mass.  
**.....Because weight equals the product of mass × gravitational field strength.....**
- 3 Avoid tasting, touching, or smelling any chemicals in the lab without the teacher's permission.  
**.....Because these substances could be burning acids or caustic alkalis.....**
- 4 Graphite is used in making dry cell batteries.  
**.....Because it is a good conductor of electricity.....**

**3 (A) Write the scientific term:**

- ① A feeding relationship where one organism benefits, while the other neither benefits nor is harmed. (.....**Commensalism**.....)
- ② The process of breaking rocks into smaller pieces without changing their chemical composition. (..... **Mechanical weathering**.....)

**(B) ① What happens when...?**

- (1) An acid is added to a piece of limestone.  
.....**Effervescence occurs, and carbon dioxide gas is released**.....
- (2) Acid rains fall on Earth's surface  
.....**They cause destruction of forests and corrosion of buildings**.....

**② Write the chemical formula for the following compounds:**

- (1) Sodium carbonate. (..... **$\text{Na}_2\text{CO}_3$** .....)
- (2) Silver chloride. (..... **$\text{AgCl}$** .....)

**4 (A) Cross out the odd word:**

- ① Detergents – Baking soda – Sodium hydroxide solution – **Hydrochloric acid solution**
- ② Basalt – Granite – Pumice – **Marble**

**(B) ① Mention the function of each of the following:**

- (1) Hydrochloric acid secreted by the stomach. (..... **It helps in food digestion**.....)
- (2) Chemical indicators.  
(**They are used to distinguish between acids, bases, and neutral substances**).

**② Identify the feeding relationship between the following:**

- (1) Polar bear and seal. (..... **Predation relationship**.....)
- (2) Two lions are eating a zebra. (.....**Competition relationship**.....)

## Model (5)

24  
Marks

### 1 (A) Complete the following sentences:

- 1 Short legs of arctic foxes is a.. **genetic...** trait, while the taming lions is ....**an acquired...** trait.
- 2 The chemical formula of calcium hydroxide is ...**Ca(OH)<sub>2</sub>.....**, while the chemical formula of hydro sulphuric acid is.... **H<sub>2</sub>S.....** .

### (B) 1 What is meant by ...?

(1) Indicators.

**(They are chemical substances whose color differs in acidic medium from that in alkaline medium).**

(2) Food web. **(...It is the interconnection and overlapping of multiple food chains...).**

### 2 A small ball whose mass is 4 kg moves at a speed of 5 m/s. Calculate:

(1) Kinetic energy:

$$KE = \frac{1}{2}mv^2 = \frac{1}{2} \times 4 \times 5 \times 5 = 50 \text{ J}$$

(2) Its kinetic energy when the object stops moving:

**KE= zero**

### 2 (A) Correct the underlined words:

- 1 If a body moves 70 meters north and then returns 20 meters south, its displacement is 90 meters. **(.....50....)**
- 2 Tin element makes up 95% of the bronze alloy. **(.. 5%..)**

### (B) 1 Mention one difference between:

(1) Growing hydrangea plants in acidic soil versus alkaline soil.

<b>Growing hydrangea plants in acidic soil</b>	<b>It becomes blue in color.</b>
<b>Growing hydrangea plants in alkaline soil</b>	<b>It becomes red in color.</b>

(2) Energy and Force (in terms of measuring units).

<b>Energy</b>	<b>The measuring unit is Joule.</b>
<b>Force</b>	<b>The measuring unit is Newton.</b>

### 2 Write the formula and name of the acid containing the following anions:

- (1) Iodide (I): **(..... HI (Hydroiodic acid).....)**
- (2) Carbonate (CO<sub>3</sub><sup>2-</sup>): **(.....H<sub>2</sub>CO<sub>3</sub> (Carbonic acid).....)**

**3 (A) Choose the correct answer:**

**1** Which of these organisms cannot make its own food?

- a) Cactus.                      b) Bean plant.                      **c) Bee.**                      d) Green algae.

**2** Which ion increases in concentration when an acidic oxide dissolves in water?

- a)  $H^+$**                       b)  $OH^-$                       c)  $Cl^-$                       d)  $Na^+$

**(B) 1 What happens when...?**

(1) A litmus strip is dipped in acetic acid.

..... **The blue litmus strip changes into red**.....

(2) A severe muscular dystrophy occurs in some newborns.

..... **Wasting and weakness of the muscles and may lead to death**.....

**2 When do the following values equal zero?**

(1) Kinetic energy of an object                      (**..... When the object is at rest ....**)

(2) Displacement of an object                      (**..... When the object returns to its starting point....**)

**4 (A) Write the scientific term:**

**1** The set of points through which an object passes during its motion. (**.....Path of motion....**)

**2** A non-metal element that is a good conductor of electricity. (**...Graphite....**)

**(B) 1 Give a reason for:**

(1) Milk of magnesia is used as a temporary treatment for stomach acidity.

**...As it contains magnesium hydroxide, which neutralizes excess stomach acid.....**

(2) The work done by a truck is greater than the work done by a car.

**.....Because the mass of the truck is greater than the mass of the car.....**

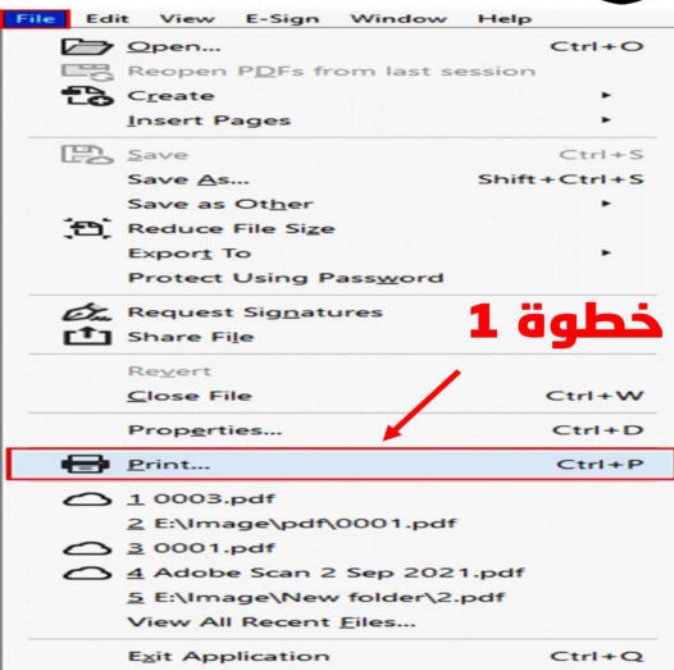
**2 What is the importance of ...?**

(1) Demolition ball                      (**..... To break down buildings .....**).

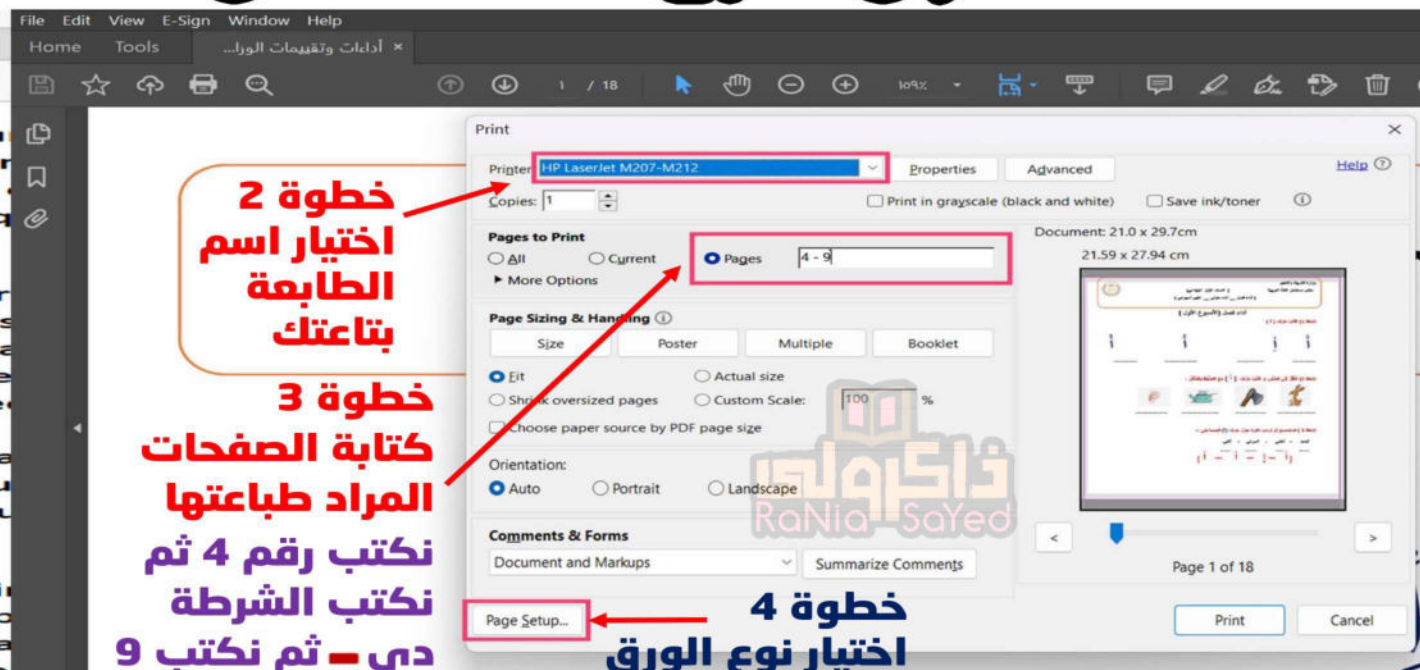
(2) pH value                      (**.....To determine the acidity or basicity of solutions....**)

# كيفية طباعة صفحات معينة من ملف معين

## مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



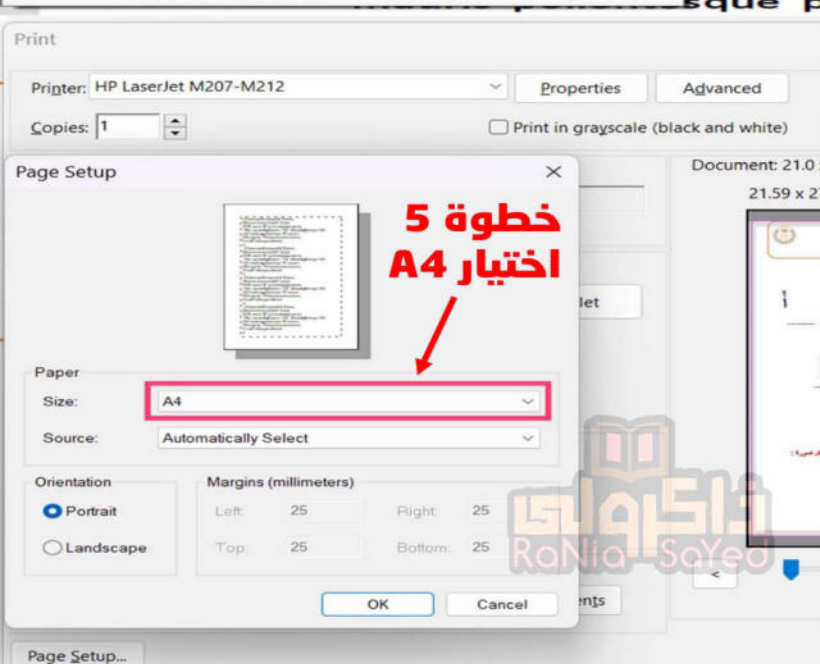
خطوة 1



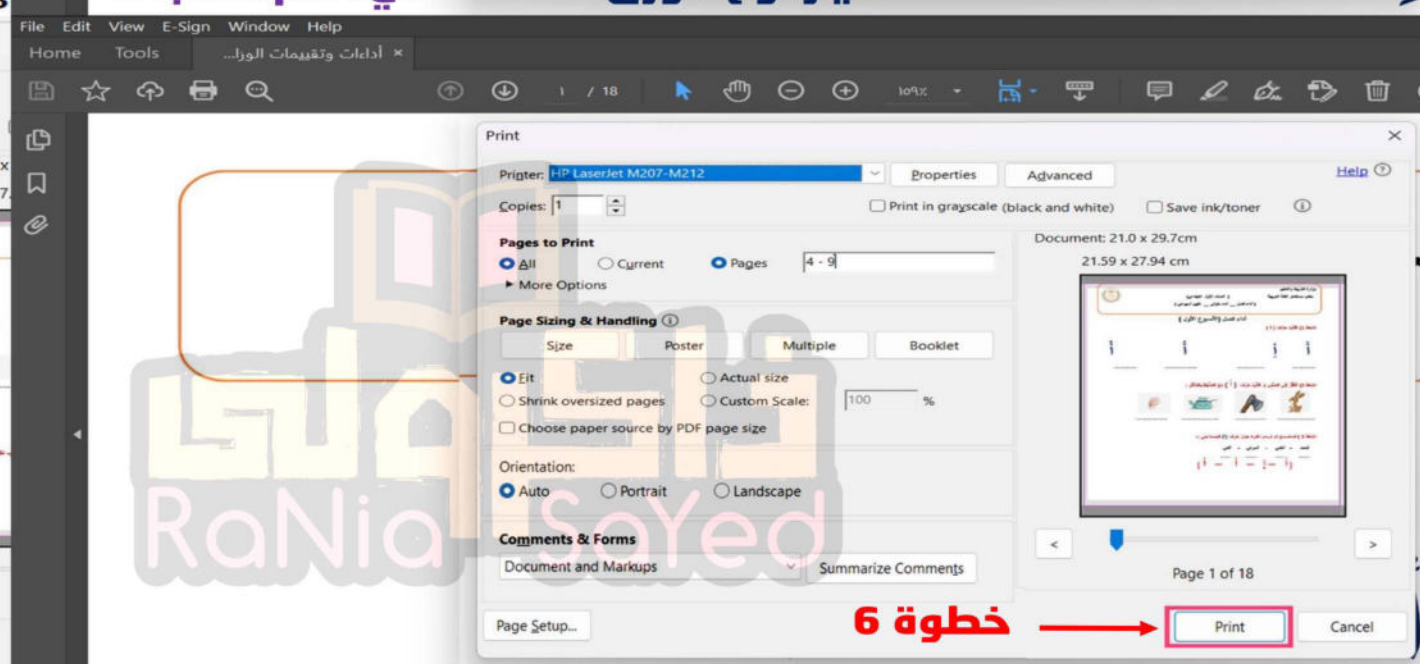
خطوة 2  
اختيار اسم  
الطابعة  
بتاعتك

خطوة 3  
كتابة الصفحات  
المراد طباعتها  
نكتب رقم 4 ثم  
نكتب الشرطة  
دي - ثم نكتب 9

خطوة 4  
اختيار نوع الورق



خطوة 5  
اختيار A4



خطوة 6



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# امتحانات رقم (2)

## الترم الثاني



## Model exam1

Question 1:**A- Write the scientific term:**

- 1- A group of individuals of the same species that live in a particular place at the same time.( )
- 2- Is carried out to facing the resources shortages of Freshwater and relies on the processes of evaporation and condensation of sea water.( )

**B- Mention one use or importance of the following:**

PH indicator – Demolition ball

**C- Give a reason for the following:**

- 1 -Erosion is both a beneficial and harmful process for the environment?

.....

- 2- Carbon is used in the manufacture of dry cell?

.....

Question 2**A- Compare between the following:**

- 1- Evaporation and condensation processes (according to the definition).
- 2 -Metal and non-metal (By giving one example)

**B- Complete:**

- 1- DNA is composed of small segments called....., each of them consist of a sequence of .....
- 2- ..... is a substance that when dissolves in water, the percentage of OH<sup>-</sup> anions in the solution increases.

Question 3:**A- Cross out the odd word:**

- 1- Sandstone- Marble- limestone – Mudstone( )
- 2 - Cubic shaped watermelon- Albino child – featherless chicken – seedless lemon.( )

**B- Write the definition?**

- 1- Salts.....
- 2- Decomposers.....





**C- Problem:**

Calculate the potential energy of an object with a mass 5 kg, at height 10 m.  
(given  $g=10 \text{ N/kg}$ )

.....

**Question 4:****A- What happens?**

1-Lactic acid accumulates in the muscles of human body.

.....

2- To the kinetic energy when the ball at the highest position from is original place.

.....

**B- Put true or false:**

1- Rocks are classified into three types ( )

2-  $\text{CO}_2$  is an alkaline gas ( )

**C- Give one example of each of the following**

1-A hereditary trait in humans ( )

2-An acquired trait in horses ( )

**Model exam2****Question 1:****A- Complete the following sentences:**

1-All metals are solids, except .....

2- The sum of the potential and kinetic energies of any moving object is .....

**B- Mention**

1- What is the effect of acid rain?

.....

2- The role of the sun in the water cycle?

.....

**Write the scientific term:**

1- Rocks formed from the accumulation and compression of sediments, often containing fossils and characterized by porosity due to spaces between the sediment particles.( )

2- The measuring unit of work.( )





### Question 2:

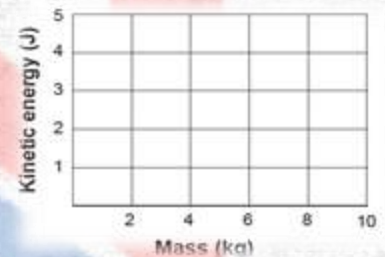
### A- Compare between:

- 1- Carnivores and herbivores (in the term of shape of teeth)**  
**2 – Basic oxide and acidic oxide ( in the term of definition)**

**B- Put true or false:**

- 1- Alloy is harder than pure metals ( )
- 2- Water evaporates from water bodies due to energy derived from the effect of the sun's heat. ( )

**c- Draw** the relation between kinetic energy and mass at constant speed.



### Question 3 :

## A- What is meant by:

- 1-Commensalism.....  
2- Water desalination.....

## B- What happens if?

- 1-The Secondary consumer disappears from the food chain.**

.....

- 2- A wetted litmus paper trip putted in a tube contains chlorine gas.**

.....

**c- Write the molecular formula**

- 1-Sodium nitrate ( )  
2-Magnesium hydroxide ( )

### Question 4 :

**Choose the correct Answer:**

- ### 1- Which process do plants participate in during the water cycle?

**a. Condensation**      **b. Evaporation**      **c. Precipitation**      **d. Transpiration**

- ## 2-Which of the following is an acquired trait?

**a. Facial freckles.** **b. A squirrel breaking a hazelnut shell.**

**c. A dolphin playing with a ball.**

**d. Eye color.**



3-The strength of the metallic bond increases with the increasing the number of the .....

a- protons in the nucleus

b- valence electrons

c- energy levels

d-neutrons in the nucleus

**B- Give a reason for :**

1- It is not possible to drown in the dead sea?

.....

2- When a person pushes a wall, he doesn't do a work

.....

### Model 1 answer

Question 1:

**A- Write the scientific term:**

1- A group of individuals of the same species that live in a particular place at the same time. (Biotic population)

2- Is carried out to facing the resources shortages of Freshwater and relies on the processes of evaporation and condensation of sea water. (Desalination of water)

**B- Mention one use or importance of the following:**

PH meter – Demolition ball

PH indicator: Test the PH value of any solution

Demolition ball: It is used for demolishing old buildings (as a result of the conversion of the potential energy stored in the heavy ball (into kinetic energy upon its release.

**C- Give a reason for the following:**

1 –Erosion is both a beneficial and harmful process for the environment?

Because it help in the formation of agricultural soil over millions of years, and it harms the soil as it causes the erosion of coastline due to the action of waves

2- Carbon is used in the manufacture of dry cell?

Because it is a good conductor of electricity





Question 2

A- Compare between the following:

1- Evaporation and condensation processes (according to the definition).

Evaporation: When Water is converted from its liquid state to the gaseous state (water vapour) upon gaining heat, which occurs at any temperature

Condensation: When Water vapour is converted from the gaseous state to the liquid state upon losing heat, which occurs at any temperature

2 – Metal and non-metal (By giving one example)

Metal: Sodium

Non-Metal: Sulfur

B- Complete:

1- DNA is composed of small segments called (genes), each of them consist of a sequence of (nucleotides).

2- (Alkali) is a substance that when dissolves in water, the percentage of OH<sup>-</sup> anions in the solution increases.

Question 3:

A- Cross out the odd word:

1- Sandstone- Marble- limestone – Mudstone

2 -Cubic shaped watermelon- Albino child – featherless chicken – seedless lemon.

B- Write the definition?

1- Salts: They are ionic compounds formed through the reaction of alkalis and acids.

2- Decomposers

They are living organisms which decompose the remains of dead organisms.

C- Problem:

Calculate the potential energy of an object with a mass 5 kg, at height 10 m.  
(given  $g=10 \text{ N/kg}$ )

$PE = m * g * h$

$PE = 5 * 10 * 10 = 500 \text{ joule}$





Question 4:**A- What happens?**

1-Lactic acid accumulates in the muscles of human body.

It causes muscle cramps.

2- To the kinetic energy when the ball at the highest position from its original place.

The Kinetic energy becomes zero.

**B- Put true or false with correction:**

1- Rocks are classified into three types (true)

2- CO<sub>2</sub> is an alkaline gas (flase) acid gas

**C- Give one example of each of the following**

1-A hereditary trait in humans (Hair colour)

2-An acquired trait in horses (Child learn How to walk)

**Model 2 answer**Question 1:**A-Complete the following sentences:**

1-All metals are solids, except (Mercury)

2- The sum of the potential and kinetic energies of any moving object is (Mechanical energy)

**B- Mention**

1- What is the effect of acid rain?

Destruct the forest, harming the aquatic organisms and corrosion of buldings.

2 -The role of the sun in the water cycle?

The heat of the sun drives the water cycle by evaporating the water in water bodies

**Write the scientific term:**

1- Rocks formed from the accumulation and compression of sediments, often containing fossils and characterized by porosity due to spaces between the sediment particles. (Sedimentary rocks)

2- The measuring unit of work. (Joule)





Question 2:A- Compare between:

1- Carnivores and herbivores (in the term of shape of teeth)

Carnivores: Sharp canines

Herbivores: incisors

2 - Basic oxide and acidic oxide (in the term of definition)

Acidic oxides: Non-metals oxides which dissolve in water forming acids

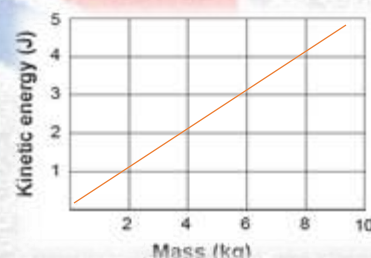
Basic oxide: Metal oxides which dissolve in water giving alkali

B- Put true or false with correction:

1-Alloy is harder than pure metals (true)

2- Water evaporates from water bodies due to energy derived from the effect of the sun's heat. (true)

c- Draw the relation between kinetic energy and mass at constant speed.

Question 3 :A- What is meant by:

1-Commensalism

It is a nutritional relationship between two species, one of the the is the commensal which benefit and the other is the host which neither benefit nor harmed

2- Water desalination

Removing the salts from the salty water like oceans, seas so it becomes available for drinking.

B- What happens if?

1-The Secondary consumer disappears from the food chain.

The number of primary consumers increase also the number of tertiary consumers decrease

2- A wetted litmus paper trip putted in a tube contains chlorine gas.

The chlorine gas removes its colour

c- Write the molecular formula

1-Sodium nitrate (NaNO<sub>3</sub>)

2-Magnesium hydroxide (Mg(OH)<sub>2</sub>)





Question 4 :

Choose the correct Answer:

1- Which process do plants participate in during the water cycle?

- a. Condensation      b. Evaporation      c. Precipitation      d. Transpiration

2- Which of the following is an acquired trait?

- a. Facial freckles.      B. A squirrel breaking a hazelnut shell.  
c. A dolphin playing with a ball.      d. Eye color.

3- The strength of the metallic bond increases with the increasing the number of the .....

- a- protons in the nucleus      b- valence electrons  
c- energy levels      d- neutrons in the nucleus

B- Give a reason for :

1- It is not possible to drown in the dead sea.

Because it has more salts so the density of water very high.

2- When a person pushes a wall, he doesn't do a work

Because the wall does not move

فريق أساتذة النخبة



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# امتحانات رقم (3)

## الترم الثاني





Final Exam – Second Term – Academic Year 2024 / 2025

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**Answer all the following questions:**

**Question One:**

**A. Complete the following sentences:**

1. .... is a non-metal that is a good conductor of electricity and is used in the manufacture of .....
2. A chemical indicator can be prepared from the leaves of the ..... plant.

**B. Give reasons for the following:**

1. Calcium hydroxide is used in treating acidic soil.
  2. The statues of the lions on Qasr El-Nil Bridge do not rust.
  3. A person pushing against a wall does no work.
  4. Bears and crows are omnivorous animals.
- 

**Question Two:**

**A. Choose the correct answer from the brackets:**

1. An object has potential energy of 80 joules at a height of 2 meters. Its weight equals .... Newton.  
(160 – 82 – 40 – 78)
  2. Which step does the plant perform in the water cycle?  
(condensation – evaporation – precipitation – transpiration)
- 

**B. Compare between each of the following:**

- |  |   |
|--|---|
| 1. Carbonic acid and ammonium hydroxide                | (in terms of chemical formula)                      |
| 2. Potassium carbonate salt and calcium carbonate salt | (in terms of solubility in water)                   |
| 3. Potential energy and kinetic energy                 | (in terms of the factors affecting)                 |
| 4. Humans and corn plants                              | (in terms of the number of chromosomes in the cell) |

**Question Three:**

**A. Write the scientific term that matches each of the following descriptions:**

1. The force of attraction between positive metal ions and the surrounding cloud of valence electrons.
2. An acid secreted by the stomach that helps in digesting food.

### **B. What happens in the following cases?**

1. The mass of a moving object decreases to half while its speed remains constant (regarding kinetic energy).
  2. A change occurs in the arrangement of nucleotides on the DNA strand.
  3. The decomposers disappear from the ecosystem.
  4. The temperature of the clouds drops below the freezing point of water.
- 

### **Question Four:**

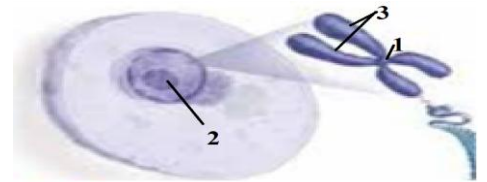
#### **A. Correct the underlined part of each sentence:**

1. The kinetic energy of a pendulum ball increases as it moves **toward the highest point**.
2. Thermal expansion and contraction of metal rocks is one of the causes of **chemical** weathering.

#### **B. Look at the following diagrams and answer the questions:**

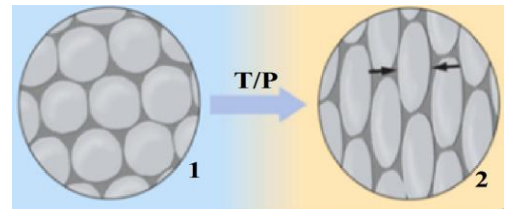
**In the diagram:**

1. Complete the labels on the diagram.
2. Identify what number 3 points to in **both the bacterium and the rabbit**.



**In the second diagram:**

3. What **type of rock** is formed in the diagram?
4. Mention one example of both **rock 1** and **rock 2**.



**Questions finish**

---

**Answer all the following questions:**

**Question One**                      **(6 marks)**

**A) Complete the following sentences:**

1. Graphite / Dry cell
  2. red cabbage
- 

**B) Give reasons for the following:**

1. Because it is a basic substance that neutralizes soil acidity.
  2. Because it is made from a bronze alloy that does not rust.
  3. Because the force does not cause a displacement of the wall in the direction of its effect.
  4. Because it feeds on both plants and animals.
- 

**Question Two :**    **(6 marks)**

**A) Choose the correct answer from the brackets:**

1. Newton – 40
  2. Transpiration
- 

**B) Compare between each of the following:**

1. Carbonic acid ( $\text{H}_2\text{CO}_3$ ) and Ammonium hydroxide ( $\text{NH}_4\text{OH}$ )
2. Potassium carbonate (soluble) and Calcium carbonate (insoluble)
3. Potential energy (depends on weight and height) and Kinetic energy (depends on mass and speed)
4. Human (46) and Corn plant (20)

**Question Three:**    **(6 marks)**

**A) Write the scientific term that matches the following definitions:**

1. Metallic bond
2. Hydrochloric acid

**B) What happens in the following cases:**

1. The kinetic energy is reduced to half
  2. The difference in genes located on the same chromosome leads to differences in genetic traits
  3. Organic matter from dead organisms does not decompose into simple substances that mix with the soil
  4. Snow falls instead of rain
- 

**Question Four:** (6 marks)

**A) Correct the underlined parts:**

1. The position direction is the starting point (rest position)  
Mechanical energy

**B) Look at the following diagrams, then answer the questions:**

**In the first diagram:**

1. The numbers represent:
    - 1: **Centromere**
    - 2: **Nucleus**
    - 3: **Chromatid**
  2. Comparison:
    - **Bacteria:** Has cytoplasm only
    - **Rabbit:** Has a nucleus
- 

**In the second diagram:**

3. The rock shown is: **Metamorphic rock**
4. Rock 1 (e.g., **Limestone or Sandstone**)  
Rock 2 (e.g., **Marble or Quartzite**)

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# امتحانات رقم (4)

## الترم الثاني



مجموع الدرجات

٢٤
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رقم المراقبة

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امتحان الفصل الدراسي الثاني ٢٠٢٤ / ٢٠٢٥ م  
للفصل الأول الإعدادي (العام والرياضي واللغات)

المادة : العلوم ( Science )

زمن الإجابة : ساعتان

التاريخ : ..... / ..... / ٢٠٢٥ م

رقم السؤال	الدرجة أرقام	الدرجة كتابة	التوقيع	
			المقدر	المراجع
الأول				
الثاني				
الثالث				
الرابع				
المجموع				

مجموع الدرجات بالحروف :

توقيع المراجع :

رقم المراقبة

--

امتحان الفصل الدراسي الثاني ٢٠٢٤ / ٢٠٢٥ م  
للفصل الأول الإعدادي (العام والرياضي واللغات)

المادة : العلوم ( Science )

زمن الإجابة : ساعتان

التاريخ : ..... / ..... / ٢٠٢٥ م

اسم الطالب :

المدرسة :

رقم الجلوس :

الإدارة :

المحافظة :

١ -

٢ -

توقيع الملاحظين بصحة بيانات الطالب كما وردت برقم جلوس الطالب ، ومطابقة عدد أوراق الكراسة عند استلامها منه:



## Model 1

### Question 1(A) Multiple Choice:

1. Which of the following is an example of an alkaline salt?

- a- NaCl      b-  $\text{Na}_2\text{CO}_3$       c-  $\text{NaNO}_3$       d-  $\text{NH}_4\text{Cl}$

2. All of the following are nonmetals except:

- a- Element  $_{16}\text{X}$       b- Element  $_8\text{Y}$       c- Element  $_{19}\text{W}$       d- Element  $_7\text{Z}$

### (B) Answer the following questions :

1. Calculate the weight of an object with a potential energy of 8 kJ placed at a height of 4 meters.?
2. Given the food chain: [  $\text{W} \rightarrow \text{X} \rightarrow \text{Y} \rightarrow \text{Z}$  ], answer the following:
  - Identify the organism representing the secondary consumer.
  - What is the primary energy source for organism W?
3. What occurs when the pH value of a solution increases from 2 to 6?
4. Explain why aluminum (Al) has a higher melting point than sodium (Na).

### Question 2 :- (A) Fill in the Blanks:

1. Igneous rocks form as a result of \_\_\_\_\_ and \_\_\_\_\_. When existing rocks are subjected to pressure and heat, they transform into \_\_\_\_\_ rocks.
2. When an object is projected vertically upward, its kinetic energy \_\_\_\_\_ while its mechanical energy \_\_\_\_\_.

### (B) Answer the following questions :

1. Explain why energy decreases from the base to the top of an energy pyramid.
2. How can you experimentally distinguish between a solution of sulfur trioxide and a solution of magnesium oxide?
3. What happens to an object's speed if it travels twice the distance in half the time?
4. Write the molecular formula for the compound formed from  $\text{Al}^{3+}$  and  $\text{CO}_3^{2-}$  ions.



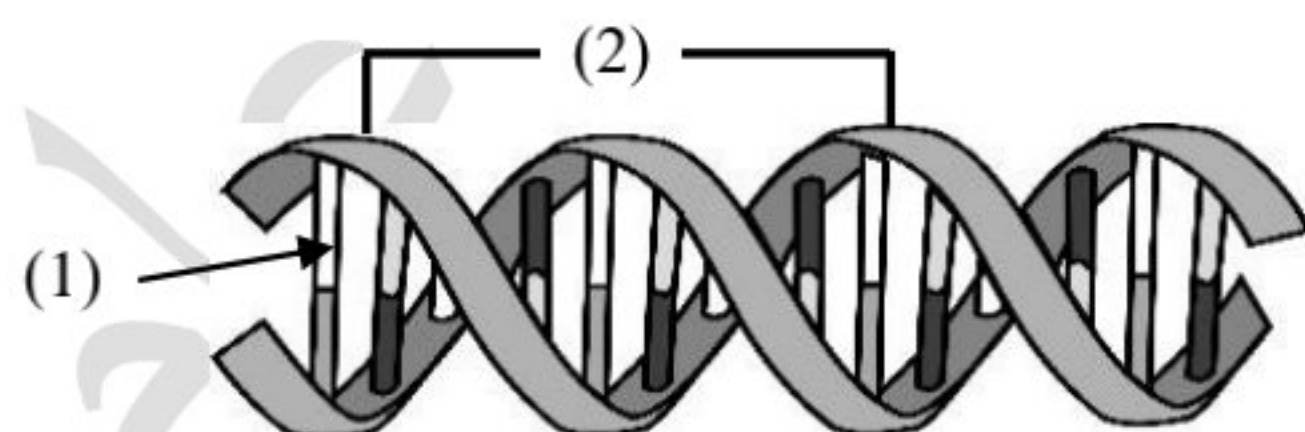
### Question 3

#### (A) write the scientific Terms:

1. The chemical formula representing a polyatomic ion composed of two different elements.
2. The chemical name of the acid containing the chlorite anion.

#### (B) Answer the following questions :

1. An object with a mass of 600 g is thrown vertically upward at a speed of 20 m/s. Calculate its potential energy at the highest point.?
2. State the importance of the lactose tolerance mutation.
3. Why does the proportion of water on Earth's surface remain constant despite continuous evaporation?
4. In the provided diagram, identify what the numbers represent:



◦ (1) \_\_\_\_\_

◦ (2) \_\_\_\_\_

### Question 4

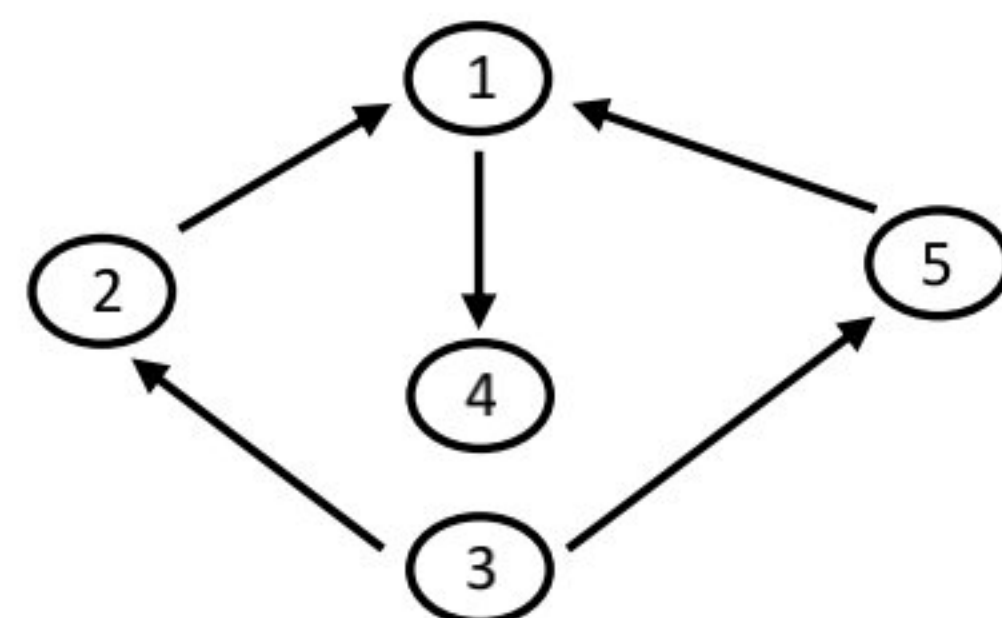
#### (A) Correct the Underlined Statements:

1. The ratio of displacement to distance for an object moving in a straight line is greater than one.
2. Ancient Egyptians used igneous rocks to build the pyramids.

#### (B) Answer the following questions :

##### 1. In the given food web:

- Identify the organism at the highest trophic level.
- How many distinct food chains are present?



2. State the geological importance of sedimentary rocks.?
3. What happens when a glass containing very cold water is left in the air for some time?
4. Why is producing cube-shaped watermelons considered an agricultural technique not a genetic mutation?



**Question One: A – Complete the following sentences:**

1. The gas ..... removes the color of litmus paper, whereas the gas ..... has no effect on litmus paper.
2. An example of a carnivorous animal is ....., whereas an example of an herbivorous animal is .....
3. Granite is classified as an ..... rock, whereas basalt is classified as a ..... rock.

**B – Give reasons for the following:**

1. The kinetic energy of a body increases while falling, even though its mass remains constant.  
.....
2. A child learning to walk is considered an acquired characteristic.  
.....
3. Magnesium (Mg) is classified as a metal.  
.....

**Question Two:**

6

**A – Write the scientific term for the following:**

1. An acid secreted by the stomach that aids in digestion.  
.....
2. The point of attachment between two chromatids in a chromosome.  
.....
3. The process of water changing from liquid to gas due to heat absorption.  
.....

**B – Identify the unrelated word and state what links the remaining words:**

1. Graphite – Sulfur – Chlorine – Oxygen  
.....
2. Work – Force – Displacement – Kinetic Energy  
.....
3. Condensation – Melting – Precipitation – Evaporation  
.....

6



### Question Three:

A – Correct the underlined parts in the following statements:

1. The organism harmed by predation is called the host. (.....)
2. Bromine is the only liquid metal. (.....)
3. Tatum is considered the founder of genetics. (.....)

B – Choose the correct answer from the brackets:

1. The two factors that maintain the continuity of the water cycle are:  
(sun and wind – wind and gravity – sun and gravity – friction and gravity)
2. Copper is used in making bronze at a proportion of:  
(5% – 15% – 90% – 95%)
3. Genes control the expression of inherited traits by producing:  
(hormones – enzymes – chromosomes – vitamins)

6

### Question Four:

A – Calculate the speed of a body with a mass of 20 kg and kinetic energy of 250 J.

.....

B – Write the chemical formula for each of the following:

1. Sulfuric acid: .....
2. Sodium hydroxide: .....
3. Copper(II) sulfate: .....

C – Define potential energy:

.....

6



### Model 3

#### Question One:

**A) Complete the following with appropriate words:(2 points per item – 1 point each)**

1. The only liquid metal is ....., while the only liquid non-metal is .....
2. The factors that help maintain the water cycle are ..... and .....

**B) Give reasons for the following:(4 points per item – 1 point each)**

1. A person pushing an object forward is said to be doing work.  
.....
2. Some individuals replace dairy products with other alternatives.  
.....
3. Erosion is considered a double-edged sword.  
.....
4. Bacteria and fungi are examples of decomposers.  
.....

6

#### Question Two:

**A) Correct the underlined parts of the following:(2 points per item – 1 point each)**

1. Producing cube-shaped watermelons is considered a spontaneous mutation.  
.....
2. The chemical formula of sulfuric acid is H<sub>2</sub>SO<sub>3</sub>.  
.....

**B) Provide the correct numerical value for each of the following:**

*(4 points per item – 1 point each)*

1. The speed of a body that covers 50 kilometers in 2 hours.  
.....
2. The percentage of the main metal in the bronze alloy.  
.....
3. The kinetic energy of a body with mechanical energy of 1000 J and potential energy of 300 J.  
.....
4. The potential energy of a body with a weight of 50 N and a height of 10 meters above the ground.  
.....

6



### Question Three:

**A) Express the following with appropriate scientific terms:**

*(2 points per item – 1 point each)*

1. Thread-like structures that represent the genetic material of an organism.

.....

2. A bond formed between a positive metal ion and its valence electrons.

.....

**B) What happens when:***(4 points per item – 1 point each)*

1. Table sugar is added to concentrated sulfuric acid.

.....

2. The speed of a body is doubled in relation to its kinetic energy.

.....

3. An acid is added to limestone rock.

.....

4. There is a shortage of food resources for the members of a biological population.

.....

6

### Question Four:

**A) Choose the unrelated word, then state the relation between the remaining words:**

*(2 points per item – 1 point each)*

1. Lemon – Ketchup – Grapes – Toothpaste

.....

2. Granite – Basalt – Pumice – Marble

.....

**C) State one importance for each of the following:***(4 points per item – 1 point each)*

1. Milk of magnesia

.....

2. Ladybird beetles

.....

3. Wrecking ball

.....

4. pH meter

.....

6



**Question One: A – Complete the following:**

1. A change in pH from 7 to 12 indicates the substance was .....  
and became .....
2. The freezing of water in rock cracks is one cause of ..... weathering, while  
spheroidal weathering is a type of ..... weathering.

**B – Answer the following:**

1. Define each of the following:
  - a. Energy
  - b. Rocks
2. State the importance of:
  - a. Genes
  - b. Bronze alloy

6

**Question Two:**

**A –**

**1-Correct the underlined parts:**

Nickel chloride is a yellow solid salt.

- 1- Work of 40 J is done when a force of 80 N is applied to lift an object vertically  
over a distance of 2 m.?

**B – Answer the following:**

1. Calculate the mass of a body moving at 10 m/s if its kinetic energy is 1000 J.?  
.....

**2. Give reasons for the following:**

- a. Boiling point is considered a distinguishing property of pure substances, unlike  
evaporation.  
.....

- b. Calcium hydroxide is sometimes added to certain types of soil.  
.....

6



### Question Three:

#### A – Choose the correct answer:

1-If the mass of an object is halved and its height is doubled, its potential energy will:  
a. Double      b. Be halved      c. Remain the same      d. Be reduced to a quarter

1. Bromine is similar to graphite in:

- a. Color      b. Physical state      c. Electrical conductivity      d. Element type

#### B – Answer the following:

1. Write the scientific term for each of the following:

- a. A natural change in one of the inherited traits  
b. A compound formed by the reaction of an acid cation with a base anion

2. What happens when:

- a. Energy transfer occurs from the first trophic level to the second

.....

- b. Sedimentary rocks are subjected to intense heat and pressure

.....

6

### Question Four:

#### A – Identify the unrelated term or symbol, and state what links the remaining ones:

1. Water flow / Acid rain / Thermal expansion and contraction / Wind erosion

.....

2.  $H_2$  /  $O_2$  /  $N_2$  /  $Cl_2$

.....

#### B – Compare the following:

1. Basalt rock and limestone – in terms of rock type

2. Omnivorous animals and scavenger animals

3. Sodium and aluminum – in terms of strength of metallic bonding

4. Sulfuric acid and sulfurous acid – in terms of electrical conductivity

6



**Question One:****A) Complete the following statements:**

1. The only liquid metal is ....., while the only liquid non-metal is .....
2. The acid containing the group (ClO<sub>2</sub>) has the molecular formula ....., and the base containing the group (NH<sub>3</sub>) has the molecular formula .....

**B) Give scientific reasons for the following:**

1. The electrical conductivity of acetic acid is lower than that of hydrochloric acid.  
.....
2. The kinetic energy of a truck is greater than that of a car when both are moving at the same speed.  
.....
3. Hyenas are considered scavenger animals.  
.....
4. Not all salt solutions are neutral.  
.....

**Question Two:****A) Write the scientific term for each of the following:**

1. A mixture made by melting two or more metals together. (.....)
2. Two processes in the water cycle that occur at any temperature. ....)

**B) State one importance for each of the following:**

1. Genes
2. Bronze alloy
3. Wrecking ball
4. Milk of magnesia



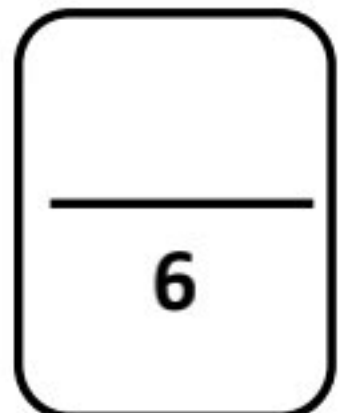
### Question Three:

#### A) Choose the correct answer:

1. All of the following elements have fewer than 4 electrons in their outermost shell *except*:  
a) Hydrogen      b) Sodium      c) Phosphorus      d) Magnesium
2. The ammonium hydroxide molecule is composed of:  
a) Four atoms of three different elements      b) Four atoms of two elements  
c) Seven atoms of three elements      d) Three atoms of two elements

#### B) Answer the following:

1. What processes cause limestone to transform into marble?  
.....
2. Calculate the kinetic energy of a metal ball with a mass of 2 kg moving at a speed of 3 m/s.  
.....
3. What type of feeding relationship exists between:  
a) A wolf and a rabbit  
b) The Nile crocodile and the plover bird



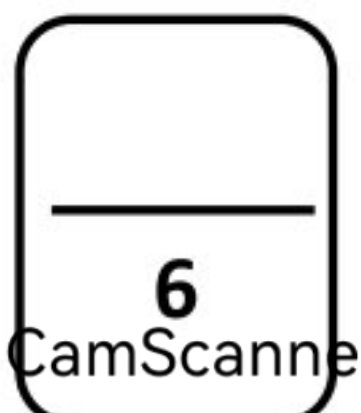
### Question Four:

#### A) Correct the underlined part of each statement:

1. Erosion is the process of breaking and crumbling rocks.
2. If the *weight* of an object is doubled while its height remains constant, its potential energy decreases to half.

#### B) Answer the following:

1. Compare:  
a) Spontaneous mutations and Induced mutations
2. Mention one instinctive behavior specific to squirrels.
3. Arrange the following geological events in order of occurrence:
  - Weathering and erosion
  - Formation of igneous rock
  - Formation of sedimentary rock
  - Magma eruption
  - Compaction and lithification
4. Draw an energy pyramid showing four trophic levels.  
.....





حمل الآن

مجانا وحصريا

# امتحانات رقم (5)

## الترم الثاني



# Model exam 1

Answer the following questions:

Question 1: A) Complete the following sentence:

- 1- Factors affecting potential energy are. .... and .....
- 2- The bronze alloy is composed of ..... at 5% and ..... at 95%
- 3- ..... is the individual that benefits from commensalism

B) Compare between the following:

- 1- Acidic oxides and basic oxides. "In term of the result of their dissolution in water".
- 2- Granite and marble. "In term of type of rock".
- 3- Hereditary traits and acquired traits. "In term of example"

---

Question 2: A) Choose the correct answer:

- 1- What is the amount of work done by a student pushing the wall of his room with a force of 500 N?  
(a) zero                      (b) 225J   (c) 500J   (d) 1000J
- 2- The combination of  $Mg^{2+}$  cation with  $CO_3^{2-}$  anion, forms.....  
(a) an acid.                      (b) an alkali.                      (c) an oxide.                      (d) a salt.
- 3- Genes control the appearance of hereditary traits in the living organism by producing.....  
(a) Hormones                      (b) vitamins                      (c) Enzymes                      (d) Chromosomes

B) Give reasons for the following:

- 1- Water drops form on the outer surface of a cup containing water and ice cubes.
- 2- Carbon is used in the manufacture of dry cells, although it is a non-metal.

3- The role of fuel within a car is similar to the role of food within a living organism.

---

Question 3: A) Mark (✓) or (X) for each statement:

- 1-Chemical weathering is the process of disintegrating and breaking rocks with a change in their properties. (    )
- 2-The acid which contains chlorite anion  $\text{ClO}_2^-$ , is known as chloric acid. (    )
- 3-A train that covers a distance of 200 km in 150 min its speed is 90 km/h (    )

B) What is meant by each of the following:

- 1- Desalination.
  - 2-Indicators.
  - 3-Mechanical energy.
- 

Question 4: A) Write the scientific term:

- 1-Mutations that occur naturally without human intervention
- 2-A substance whose dissolution in water leads to an increase in the percentage of  $\text{OH}^-$  anions in the solution.
- 3-The variable that is changed during the experiments

B) State the importance of each of:

- 1- Gravity in the water cycle in nature.
- 2- Energy pyramid.
- 3- PH Meter

## Model exam 2

### **Q1: A Complete the following sentences:**

- 1- Oxides are divided into ..... oxides, and .....oxides.
- 2- The molecular formula of nickel chloride salt is ..... and its colour is ..... .

### **B: Give reasons for each of the following:**

- 1- Graphite is used in dry cells despite being a nonmetal.
- 2- Acid turn blue litmus strip to red.
- 3- The work required to move a car increases as its mass increases.
- 4- Bacteria and fungi are called decomposers.

### **Q2: (A) Put a mark (✓) in front of the correct statements and an (x) in front of the incorrect statements:**

- 1- The forms of infiltration are rain, snow and hail ( )
- 2- The measuring unit of displacement is the same as the measuring unit of distance ( )

### **(B) What happens when:**

- 1- Lack of food sources in a balanced ecosystem
- 2- Mixing molten gold with molten copper.
- 3- Reaction of acids with alkalis

### **-Problem:**

A body moves at a speed of 20 km/h. Calculate the distance travelled after three hours?

### **Q3 (A) Choose the correct answer:**

- 1- The liquid element which is bad conductor of heat and electricity is .....  
(bromine – chlorine – mercury – lithium)
- 2- Copper is a component of bronze alloy, its percentage is .....  
(5% - 15% - 65% - 95%)

**(B)What is meant by:**

- 1- Speed
- 2- Genetic traits
- 3- Predation
- 4- Rocks

**Q4 (A) Write the scientific term:**

- 1- The energy stored in a body as a result of the work done
- 2- The processes of transportation and sedimentation rock fragments which resulting from weathering away from the areas where they were originally found.

**(B) Compare:**

- 1- Sedimentary, Metamorphic and Igneous Rocks in terms of Examples & Method of Formation
- 2- Inherited traits, instinctive behaviors, acquired traits in terms of Definition& Examples.
- 3- Mechanical weathering and chemical weathering.
- 4- Commensalism and mutualism in terms of Definition & Examples.

## **Model exam 3**

### **Q1 – A) Choose the correct answer:**

1-what is the quantity that have the same measuring unit as force

- a) energy                      b) displacement                      c) speed                      d) weight

2-PH value of a solution is changed from 8 to 5, that means it was .....

- a) acidic and become alkaline                      b) acidic and become neutral  
c)alkaline and become neutral                      d) alkaline and become acidic

### **Q1- B) compare between:**

1-sponatnous mutation and induced mutation (in term of example)

2-ammonia gas and carbon dioxide gas

(in term of effect on litmus strips witted with water)

3-scavengers and omnivores (in term of type of food)

4-granite and basalt (in term of size of crystals)

### **Q2-A write the scientific term of each of the following sentences**

1-thread- like bodies representing the genetic materials of the eukaryotic microorganisms

2-rocks formed from the solidification of magma or lava

### **Q2 – B) Calculate or mention the number of:**

1- the percentage of fresh water in relation to total area of water bodies on earth's surface

2-the number of cations produced from dissolving sulphuric acid  $H_2SO_4$

3-the range of the scale that used to determine the acidity or basicity

4-the ratio between the kinetic energy to the potential energy at midpoint



**Q3-A: correct the underline word**

- 1-the stomach secretes lactic acid which help in the digestion of food
- 2-the product of the speed of the object multiplied by the time equals the work

**Q3-B: what happen when:**

- 1-change in the nature of specific gene
- 2-competition between two lions for food
- 3-placing a cup of water in sunny place for several hours
- 4-the exposure of sandstone to extreme pressure and heat

**Q4-A) put (✓)or (x)**

- 1-only the host benefit in the commensalism (       )
- 2-solid salts and their solutions are good electrical conductors (       )

**Q4-B) what is**

- 1-The height of the object of mass 6 kg above the ground if the potential energy is 180 J (gravitational field intensity 10 N / Kg)
- 2-The mechanical energy of the object at the midpoint between the falling position and the ground
- 3-Type of nutritional relationship between the fly and Dionaea plant
- 4-Use of sea water desalination

# Model exam 1

## Question 1:

### A) Complete the following sentence:

- 1- weight / height
- 2- tin / copper
- 3- Commensal

### B) Compare between the following:

1-

Acidic oxides	basic oxides
Acid	Alkali

2-

Granite	Marble
Igneous rock	Metamorphic rock

3-

Hereditary traits	Acquired traits
Eyes color	Dolphin playing football

## Question 2:

### A) Choose the correct answer:

- 1- Zero.
- 2- a salt.
- 3- Enzyme.

### B) Give reasons for the following:

- 1- Due to condensation of water vapor that found in air.
- 2- Because it's only non-metal good conductor of electricity.
- 3- Because the chemical energy found in food and fuel is potential energy stored in chemical bonds.

## Question 3:

### A) Mark (✓) or (X) for each statement:

- 1- (✓)
- 2- (X)
- 3- (X)

### B) What is meant by each of the following:

- 1- A process that removes salts from seawater.
- 2- Chemical substances whose color differs in acidic medium from that in alkaline medium.

3- The sum of the potential and the kinetic energies of any moving object.

**Question 4:**

**A) Write the scientific term:**

- 1- Spontaneous mutation.
- 2- Alkali.
- 3- Independent variable.

**B) State the importance of each of:**

- 1- Causes precipitation (water returns into Earth).
- 2- represents the flow of energy and its amounts between the different Trophic levels in any food chain
- 3- measure the pH value of solutions directly and accurately

## **Model exam 2**

**Q1:A Complete the following sentences:**

- 1-Oxides are divided into **basic** oxides, **acidic** and oxides.
- 2-The molecular formula of nickel chloride salt is **NiCl<sub>2</sub>** and its colour is **green**.

**B: Give reasons for each of the following:**

- 1-Graphite is used in dry cells despite being a nonmetal.  
**- bec.It is the only non-metal which is a good conductor of electricity.**
- 2-Acids turn blue litmus strip to red.  
**-bec. They contain H<sup>+</sup> cations responsible for all acidic properties.**
- 3-The work required to move a car increases as its mass increases.  
**-bec.When the mass of the car increases its kinetic energy increases and thus the work required to move it increases.**
- 4-Bacteria and fungi are called decomposers.  
**-bec.They decompose (break down) the organic substance found in the dead bodies of other organisms into simpler substances.**

**Q2: (A) Put a mark (✓) in front of the correct statements and an (x) in front of the incorrect statements:**

- 1- The forms of infiltration are rain, snow and hail (x )
- 2- The measuring unit of displacement is the same as the measuring unit of distance (✓ )

**(B) What happens when:**

1-Lack of food sources in a balanced ecosystem

Competition between living organisms within the same species appears.

2-Mixing molten gold with molten copper.

It will form a hard strong alloy.

3-Reaction of acids with alkalis

Neutralization reaction occurs giving salts & water.

**-Problem:**

A body moves at a speed of 20 km/h. Calculate the distance travelled after three hours?

$$\begin{aligned}\text{Distance} &= \text{speed} \times \text{time} \\ &= 20 \times 3 = 60 \text{ km}\end{aligned}$$

**Q3 (A) Choose the correct answer:**

1- The liquid element which is bad conductor of heat and electricity is (bromine – chlorine – mercury – lithium)

2- Copper is a component of bronze alloy, its percentage is .....  
(5% - 15%- 65% - 95%)

**(B) What is meant by:**

1- Speed

It is the distance covered in unit time

2- Genetic traits

Traits that are transmitted from parents to their offspring without learning.



### 3- Predation

It is a nutritional relationship between two individuals, one of them benefits and the other gets harmed or loses its life.

### 4- Rocks

It is a solid material that composed of one or several minerals.

#### Q4 (A) Write the scientific term:

1- Potential energy

2- Erosion

#### (B) Compare:

1- Sedimentary, Metamorphic and Igneous Rocks in terms of Examples & Method of Formation

	Sedimentary rocks	Metamorphic rocks	Igneous Rocks
Examples	Sandstone, claystone, limestone	Marble & Quartzite	Granite, gabbro, basalt and pumice
Method of Formation	Weathering, erosion, deposition & lithification	High pressure and temperature without melting	High pressure and temperature till melting and crystallization

2- Inherited traits, instinctive behaviors, acquired traits in terms of Definition & Examples.

	Inherited traits	Acquired traits	Instinctive behaviors
Definition	Traits passed from parents to offspring through genes.	Traits that can be learned or trained	Behaviors and skills passed from parents to offspring without learning

Examples	Eye color–hair type	Learning a language– riding a bicycle	A spider weaving its web –A hen brooding its eggs.
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### 3- Mechanical weathering and chemical weathering.

	Mechanical weathering	Chemical weathering
Definition	The breakdown of rocks without changing their chemical composition	The breakdown of rocks through chemical reactions that changes their composition

### 4- Commensalism and mutualism in terms of Definition & Examples.

	Commensalism	mutualism
Definition	A nutritional relationship between two living organisms where one organism benefits, and the other is neither benefited nor harmed.	A nutritional relationship between two living organisms where both organisms benefit
Examples	Plover bird and crocodile	Bee and flower

## Model exam 3

### Q1-A

1- (d) weight

2-(d) alkaline and become acidic

### Q1-B

1- spontaneous: (dark skinned mother giving birth to albino child)

Induced mutation:(production of featherless chicken)

2-ammonia gas: turn red litmus paper into blue

Carbon dioxide gas: turn blue litmus into red

3-scavengers: eat dead animals

Omnivores eat both plant and animals

4-granite: has large crystals

Basalt: has small sized crystals

### Q2-A

Write the scientific term

1-chromosome

2-igneous rocks

### Q2-B

1-3%

2-2 cations

3-from 0 to 14

4- 1:1

### Q3-A

1-hydrochloric acid

2-distance

**Q3-B**

1-mutation occur

2-both of them get harmed

3-water will evaporate

4-it will turn into quartz

**Q4-A**

1-(false)

2-(true)

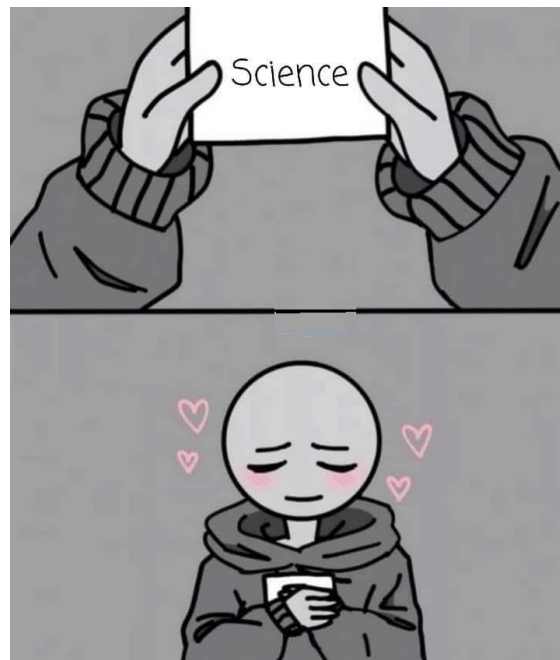
**Q4-B**

1-height = 3m

2-double potential energy or double kinetic energy

3-predation

4-to sperate salt from water and obtain fresh water



Good luck & Have Fun 😊



# كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9

